

from streams, check dams, canals and wetlands in Tamiraparani river basin has already been documented (Shanthi 2002). In our ongoing project we also collected several specimens of *Puntius* sp. from Thenmalai, Kulathupuzha and Kottayam, which is closely related to *Puntius arulius arulius*, but it varies widely from *P. arulius* in several morphometric characters. Hence, the occurrence of this species (Gopi 2000) from this area needs further confirmation.

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12. NEW RECORDS AND RANGE EXTENSION OF FRESHWATER FISHES TO THE NILGIRI BIOSPHERE RESERVE, SOUTH INDIA

The Nilgiri Biosphere Reserve (NBR) is spread over the tri-junction of three states in southern India – Tamil Nadu, Kerala and Karnataka, and hence is under the joint jurisdiction of the forest departments of the three states. It is located at 10° 45'-12° 15' N and 76°-77° 15' E and has an area of 5,520 sq. km (Daniels 1993). It encompasses a complex of protected areas and reserve forests, including Nagarahole and Bandipur (Karnataka), Wynaad, the slope of Nilambur, Silent Valley and

Siruvani Hills (Kerala), and Mudumalai, Nilgiris and Mukurthi (Tamil Nadu). Of these, Bandipur, Nagarahole, Silent Valley and Mukurthi are national parks, and Mudumalai and Wynaad are wildlife sanctuaries. Bandipur is a Tiger Reserve and also the single largest protected area (874.0 sq. km) within the NBR (Anon. 1981). The annual rainfall in the area ranges from 500 to 7000 mm (Mohanan and Balakrishnan 1991) and elevation varies from 80 m (Nilambur plains) to over 2,600 m

above msl (Nilgiri plateau) (Gadgil *et al.* 1986). The NBR forms one of the critical catchment areas in Peninsular India, as many major tributaries of the Cauvery, Chaliyar and Bharathapuzha river systems have their sources and catchment area within the reserve boundary. In addition, there are both westward flowing rivers, which include the Chaliyar, Kadalundi and Bharathapuzha and their tributaries and eastward flowing rivers of the Cauvery river system such as Noiyal, Bhavani, Kundah, Coonor, Pykara, Kabini and Gundal and their tributaries. All of these river systems provide excellent habitats for fishes.

1. *Barilius canarensis* was reported from Karnataka and Kerala parts of the Western Ghats (Jerdon 1849; Day 1878, 1889; Hora 1942). But in the present study, not a single specimen could be collected from Kerala and Karnataka part of NBR. However, it was collected at Kovaicourtalam, upstream of Noiyal river of Bhavani river basin. This is a new record to Bhavani river.

2. The distribution of *Neolissochilus wynaadensis* was known from Wynaad and Vythiri regions of Kerala (Day 1873, 1878, 1889; Jayaram *et al.* 1982; Daniels 1993; Easa and Basha 1995). During the present study, this species was collected from Nilpuzha, Vythiri and Kallar. Record of this species in Kallar of Bhavani river is a new record to Tamil Nadu part of the Western Ghats. Earlier workers (Mukerji 1931; Easa and Basha 1995) on Bhavani have not reported this species.

3. The distribution of *Garra lughii* Silas (1954) is so far known from the Cardamom and Palani hills (Talwar and Jhingran 1991; Jayaram 1999); this is the first record of this species in NBR.

4. *Clarias dussumieri* was recorded from Chaliyar river basin (Karimpuzha, Arikayampuzha and Panapuzha) and Kabini basin (Nulpuzha). Easa and Basha (1995) reported this species from Karimpuzha stream. But in the present study, this species was not recorded from Karimpuzha stream.

5. *Osteobrama ueilli* was reported from Bhavani river at base of Nilgiri hills (Day 1873; Hora and Misra 1940; Daniels 1993). In the present study, this species was recorded from Nugu of Kabini river basin but not from earlier reported places. It also extended its range to Kabini river basin.

6. *Crossocheilus latins latins* has been reported up to Maharashtra (Hamilton 1822; Bleeker 1860; Day 1877, 1889; Hora and Misra 1938; David 1963; Menon 1974; Singh and Yazdani 1991; Jayaram 1999). Later, Easa and Basha (1995) reported this species from Kerala part of the NBR, but they did not mention the exact location. The present study showed the extended distribution to Belimeenthurai of Moyar river.

7. Many workers reported the distribution of the *Batasio*

travancoria from and outside the NBR. Hora and Law (1941) described this species from Perunteraruvu, a tributary of Pamba river at Edakadathy. Later, many workers reported it from different places. Silas (1951) reported from Anamalai Hills, Jayaram *et al.* (1976) from Cardamom and Agastya hills of the Western Ghats, Raghunathan (1989) from Coorg district, Karnataka and Easa and Basha (1995) from Chalikal of Chaliyar river basin. The present study extends its distribution to Nulpuzha of Kabini river basin.

8. Pethiyagoda and Kottelat (1994) described *Travancoria elongata* from Chalakudy river near Vettilappara. After Pethiyagoda and Kottelat (1994), this species has not been reported from anywhere. The present record extends its range to Kovaicourtalam upstream of the Noiyal river of Bhavani basin.

9. Easa and Basha (1995) recorded *Channa striatus* from Karimpuzha, Nulpuzha, Kabini river, and Ajithkumar *et al.* (1999) reported it from Chalakudy river. In the present study, this species was collected from the same location and Ombatta swamp of Mudumalai Wildlife Sanctuary. The present record extends its range to Bhavani river basin.

10. The distribution of *Silurus wynaadensis* was known, so far, from Wynaad hills (Day 1873, 1877, 1889; Hora 1937). It has not been reported subsequently from Wynaad hills. The present study extends its range to Thavalam and Kallar of Bhavani river.

11. Fish fauna of the Silent Valley was studied by Rema Devi and Indra (1986); Easa and Basha (1995) reported ten species from Silent Valley National Park. In the present study, ten species were collected from the same area. *Danio aequipinnatus* was collected from three locations (Madriramamthodu, Eramalathodu and Pathrakadavu), which is a new addition to Silent National Valley Park.

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13. NOTES ON THE LIFE HISTORY OF *LACCOPTERA (SINDIA) SULCATA* (OLIVIER) (COLEOPTERA: CHRYSOMELIDAE: CASSIDINAE)

In the Fauna of British India, Maulik (1919) had included 3 species under the genus *Sindia*: namely *S. clathrata* (Fabricius), *S. foveolata* (Boheman) and *S. sedecimmaculata* (Boheman). Spaeth later added one more species, namely *S. jawalagiriana* Spaeth (Borowiec 1999). Borowiec (1994) expressed the opinion that *Sindia* Weise should be treated as a subgenus of *Laccolptera* Boheman. According to this recent revision, only two species are retained under the subgenus *Sindia* – *S. clathrata* (= *sulcata*) and *S. sedecimmaculata* (Borowiec 1999). The name *Sindia clathrata* (Fabricius) has been synonymised under *S. sulcata* (Olivier) (Hincks 1952; Borowiec 1996, 1999). Thus, the valid name today is

Laccolptera (Sindia) sulcata (Olivier).

The species has been recorded from various parts of India, such as Nasik (Maharashtra), Kolkata (West Bengal) and 'Malabar' (Maulik 1919); Vissanpeta and Madras (Tamil Nadu), Pondicherry (Borowiec 1990); Pudukkotai (Tamil Nadu) (Borowiec and Takizawa 1991); Jabalpur (Madhya Pradesh) (Borowiec 1996). Some other records are given in the latest Catalogue of the World Cassidinae (Borowiec 1999). Apparently, this insect is widely distributed, though there are only a couple of records from Maharashtra.

For *Laccolptera*, scanty records are available on the life history of only 4 species, although there are more than 60